

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Santos Savio et al.	Examiner:	Bruce D. Hissong
Serial No.:	10/529,923	Group Art Unit:	1646
Filed:	August 29, 2005	Docket:	976-24 PCT/US/RCE III
Confirmation No:	5270	Dated:	August 7, 2009
For:	VACCINE COMPOSITION COMPRISING INTERLEUKIN-15 (IL-15)		

Commissioner for Patents
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REPLY BRIEF PURSUANT TO 37 C.F.R. §41.41

Sir:

This Reply Brief is in response to the Examiner's Answer mailed June 11, 2009. Accordingly, it is being filed within two months from the mailing date of the Examiner's Answer. A Request for Oral Hearing is not being made herein. Applicants respectfully request consideration and decision on the briefs without an oral hearing.

ARGUMENT

Appellants reply herein to the arguments raised by the Examiner, as captioned below.

Inherency

On page 6 of the Examiner's Answer, the examiner responds to the arguments set forth in the Appeal Brief. The examiner acknowledges the Appellant's arguments that Grabstein (WO 95/27722) does not provide one skilled in the art any reason for administering a composition

comprising human IL-15 and aluminum hydroxide to generate neutralizing self-antibodies against the IL-15. As argued in the Appeal Brief, Grabstein teaches away from administering IL-15 to generate neutralizing self-antibodies against IL-15 because, instead of stimulating T lymphocyte proliferation as disclosed in Grabstein, the claimed neutralizing response inhibits the activity of IL-15 as a cytokine. In response, the examiner asserts that one skilled in the art practicing the steps disclosed in Grabstein, Brewer and Gonzalez would *inherently* produce neutralizing antibodies against autologous IL-15. Applicants respectfully traverse.

The examiner utilizes inherency for the disclosure of the element in Claim 22 that states, “wherein said IL-15 antigen generates neutralizing self-antibodies against IL-15.” This element in Claim 22 was not known prior to the patent application in question. However, obviousness cannot be predicated on what is not known at the time the invention is made.

It is important not to confuse the doctrine of inherent anticipation with the doctrine of obviousness. The Federal Circuit has, in fact, long recognized that the doctrine of inherency as applied to anticipation and obviousness are distinct concepts. For example, as the Federal Circuit stated in *Kloster Speedsteel AB, et al. v. Crucible Inc., et al.* 230 USPQ 81, 88 (Fed. Cir. 1986):

The argument is unpersuasive when confronted by Stora’s failure to establish at trial that that inherency would have been obvious to those skilled in the art when the invention of claim 4 was made. **Inherency and obviousness are distinct concepts.** (Emphasis added.)

An element in an obviousness rejection not expressly disclosed in the prior art may not be established by inherency. Thus, *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1555, 1957 (Fed. Cir. 1993) states:

The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient [to establish inherency.]’ *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981) (citations omitted, emphasis added). **‘That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown.’** *In re Spormann*, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966). **Such a retrospective view of inherency is not a substitute for some teaching or suggestion supporting an obviousness rejection.** See *In re Newell*, 891 F.2d 899, 901, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989).

The Federal Circuit in *In re Rijckaert* relied in its decision on *In re Newell*, 891 F.2d 899, 901, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989) for the proposition that “. . . a retrospective view of inherency is not a substitute for some teaching or suggestion supporting an obviousness rejection.” *In re Newell* also contains an unambiguous statement that obviousness cannot be based on a claim element that is unknown at the time of the invention. Thus, the Federal Circuit stated in *In re Newell*:

Although the Solicitor argues that it is inherent that a belt drive will provide greater surface contact with the cartridge capstan, and thus better power transfer, a retrospective view of inherency is not a substitute for some teaching or suggestion which supports the selection and use of the various elements in the particular claimed combination. *SmithKline Diagnostics v. Helena Laboratories*, 859 F.2d 878, 886-887, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988). It is well established that in deciding that a novel combination would have been obvious, there must be supporting teaching in the prior art. **That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown.** (Emphasis added.)

As stated above, prior to the application, it was not known that administering a composition of comprising human IL-15 and aluminum hydroxide could be administered to generate a neutralizing self-antibody against IL-15. To the contrary, Grabstein taught the administration of IL-15 for the stimulation of T cell proliferation using IL-15. This is essentially the opposite of what is claimed in the pending claims.

Obviousness

The examiner further asserts that the administration of IL-15 with aluminum hydroxide with or without coupling to P64k protein, for the production of antibodies, would be expected to produce antibodies specific for autologous IL-15. However, individuals normally do not respond to their “self” antigens. This is the basis for self/non-self discrimination by the immune system.

On page 7 of the Examiner’s Answer, there are no references cited by the examiner to support the assertion that the administration of IL-15 with aluminum hydroxide would be expected to produce antibodies specific for the autologous IL-15. Instead, the examiner cites to Applicants’ own specification. The use of such hindsight is not permissible. *KSR v. Teleflex*, 127 S. Ct. 1727, 1742 (2007).

Furthermore, the examiner relies upon Brewer et al., (*J. Immunol.*, 1999, Vol. 163, pp. 6448-6454) for the disclosure that aluminum hydroxide is useful as a vaccine adjuvant. However, Brewer et al. relates to a study of a mechanism of action of aluminum hydroxide through IL-4 and its receptor, as well as other related cytokines. In this and other similar studies, tested antigens were exogenous. Applicants are not aware of any published study where a self-antigen was used with aluminum hydroxide as an adjuvant.

Therefore, withdrawal of the rejections of Claims 22 and 23 based on obviousness is respectfully requested.

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Conclusion

Applicants respectfully request reversal of the rejection contained in the Office Action of October 16, 2008 for the reasons stated above and set forth in Applicant's Appeal Brief.

Respectfully submitted,

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